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### THE CORN TRADE.

ABSTRACT OF THE REPORT MADE TO THE ENGLISH HOUSE OF COMMONS BY THE COMMITTEE APPOINTED TO INQUIRE INTO THE DEPRESSED STATE OF AGRICULTURE.

The report of the Agricultural Committee may be said to embrace the following topics:—

*Admission of the Distress of the Agriculturists; Attempt to ascertain its Cause, and to define its Extent; Reference to former Periods of Distress.*

*Principles of our Corn Trade; Historical Retrospect; its prosperous State from 1773 to 1814, a Period comparatively exempt from legislative Interference; various Disadvantages of our present Corn Law; Modifications suggested, particularly a moderate fixed Duty on Foreign Corn.*

*Examination of the Petitions of the Agriculturists with regard to Taxes; the high Duty (40s per quarter) which they propose on Foreign Wheat; and, lastly, their Objections to the unlimited Warehousing of Foreign Corn; Conclusion.*

*Admission of the Distress of the Agriculturists.*—The complaints of the farmers and others in the numerous petitions referred to the committee appear but too well grounded, as far as they represent the present price of corn to be by no means adequate to the charge of raising it, and the consequent necessity for the tenant to pay from his capital a considerable proportion of his outgoings. This is shown by the testimony of many respectable witnesses, as well occupiers of land as surveyors and land-agents; and the conclusion is that the return of farming capital, which, during a considerable part of the war, somewhat exceeded the ordinary rate of profit, is now materially below it.

Though the pressure thus caused on the farmer has materially affected the retail business of shopkeepers in country-towns, it appears by official returns that the consump-

tion, in the kingdom at large, of the principal articles subject to excise and customs increased in 1820, when compared with the average of the three preceding years; as also that the quantity made of our chief manufacture has on the whole received an increase. Rents, likewise, have as yet been paid without much arrear, except in particular districts; a punctuality which seems to afford a ground for hoping that the tenantry possess resources which will enable them to surmount their difficulties, especially as landlords have been induced to lower their rents in many instances, not only on new leases but on subsisting contracts.

*Examples of similar embarrassment.*—However much this pressure is to be lamented, revulsions of the same nature, if not to the same degree, have occurred in different periods of our history, particularly in the years 1804 and 1814. The discussions in the latter years cannot be called to recollection without our being forcibly struck with the conformity of the statements and opinions then given on the ruinous operation of low prices, with those in the evidence annexed to this report: yet in this, as well as in several preceding instances recorded between the middle of the 17th and that of the 18th century, the fears of those who reasoned on their continuance and increase were successively dissipated by the natural course of seasons and events.

This reference to past experience ought to operate in allaying alarm, and should lead to a conclusion on the part of the occupiers of the soil, as it has done on the part of the committee, that in agriculture, and in all pursuits in which capital and industry are embarked, there have been and will be periods of reaction: a reaction proportioned to the previous prosperity of the pursuit, and the degree of personal exertion and investment of capital prompted by that prosperity. In the distribution of capital and labour, a natu-

ral tendency exists to remedy the disorders arising from such temporary derangement, and any interference on the part of the legislature has often operated to prolong them.

*Cause of the Rise of Prices in War, and of their subsequent Depression.*—The increase of rent during the late wars was owing to two main causes—the diminished value of our currency, and the extensive investment of capital in land, as well for the improvement of what was already under tillage, as to bring into cultivation great tracts of land formerly waste or comparatively of little value. The proportion of increase to be ascribed to either cause cannot be defined with accuracy. The restoration of the currency naturally tends to lower rent as far as it had been raised by the depreciation of our paper, but the quantum of such reduction cannot be determined at the present moment; because our currency, after having so long been below, now appears to be above its standard. The coffers of the bank have been replenished in the course of the last and the present year, and in a great measure by withdrawing coin from circulation on the continent of Europe, while the separate currency of this kingdom has at the same time undergone a contraction. The present price of silver in bank-paper, and the high course of our foreign exchanges, concur strongly to warrant this conclusion. Without pursuing this inquiry farther, the committee cannot but ascribe a part of the depression of prices to the measures taken for a return to metallic currency in this as well as in other countries; and they incline, therefore, to the belief that the ultimate effect on rent of a resumption of cash-payments will fall far short of some of the predictions suggested by the present alarm. The diminution of rent from this cause cannot, they think, in the end exceed that part of the increase which, during the war, grew out of depreciation;

and, if circumstances are favourable, it may not perhaps go so far.

A fall of money price has of late years taken place in several countries, and in a great variety of articles: it applies to the corn, the cotton, the rice, and the tobacco of the United States; to the sugar and rum of the West Indies; to the tallow, flax, timber, iron, wool, and corn of the continent of Europe. In all these articles, the proportion of fall has been equal, in some cases more than equal, to the fall in the price of corn in England; although, in commodities so different from corn, the same causes cannot be considered as operating. So general a depression of money-price can be explained only by the derangement produced by the convulsions of the last thirty years; a derangement pervading all the relations of commerce in the application of capital and the demand for labour; and which will not cease until the habits and dealings of individuals, as well as the intercourse of nations, shall have adjusted themselves to that state of things which is likely to become again the permanent condition of society.

The present depression of the corn-market is, in the opinion of the committee, the result not of the large importations of corn in 1817 and 1818, but of an abundant growth at home. The harvest of 1819 was in England an average-crop, and in Ireland somewhat more, while that of 1820 appears to have exceeded an average in both countries. The supply of wheat has, doubtless, been much extended in the present age, particularly in Ireland, since the act of 1806 so judiciously permitted a free import of corn of every description from that country to Great Britain. The import from Ireland in the thirty-two years between 1773 and 1806 was only 7,534,000 quarters; but in the fifteen years from 1806 to 1821 it was 12,304,000 quarters.

*Historical View of our Corn-Laws.*—On taking this retrospect, we discover traces of the interference of government from a very early age. We find in the 16th century, before the introduction of our poor-laws, statutes prohibiting the conversion of arable into pasture land, and restricting the number of sheep and live-stock. These stat-

utes were apparently suggested by a solicitude to find employment for the lower orders, and to relieve their misery by increased tillage. In the 17th century we perceive a similar interference in a less harsh form; and the era of the revolution is well known as the commencement of a system for the direct increase of growth by the grant of a bounty on export. This effect it certainly produced; for between 1697 and 1773 the amount of corn exported above our imports was 30,968,000 quarters; and the amount of bounty paid out of the public revenue was 6,237,000*l*.

The necessity of import experienced in the early part of the reign of George III. led to a new view of the corn trade, to the limitation of the bounty on export, and to the admission of foreign corn at a small duty, whenever our own exceeded a specified price. In the competition thus permitted between the British and the foreign grower, what advantage was given to the former? During the twenty years from 1773 to 1793, the British grower had scarcely any protection above the foreigner except the charge of freight, and a duty never heavy and frequently little more than nominal. From 1793 to 1814, that protection received an increase: but the virtual encouragement, that which had a real and extensive operation, was the high rate of charge incident to imports in the late war, particularly in the latter years of it. The corn-law was in general inoperative: yet no period was more marked with improvements in agriculture, and none offered more substantial reasons for submitting to parliament the expediency of a trade in corn always open to other nations; without any burden except that of such a fixed duty as might compensate to the British grower the indirect encouragement given to him during the war by the high freight and other charges on import. Compare the period of 1713—1756 with that of 1773—1814, recollecting that the former was a term chiefly of peace, and the latter chiefly of war; that during the former the market-interest of money was generally below, and during the latter frequently above the rate fixed by law; and farther that in the one the legislature granted a bounty on the ex-

port of corn, while during the other agriculture had no such stimulant. It will then be found that in the earlier period our agriculture was comparatively stagnant, but in the latter in a state of rapid extension and improvement. Ought it not to be inferred that there was nothing in the bounty system that necessarily promoted agriculture—nothing in the comparative abstinence from interference that was incompatible with its prosperity? If, before 1773, the quantity of wheat raised in Great Britain was only 4,000,000 of quarters, and if at present it is more than double; if since that time the number of cattle and sheep has been vastly augmented, and their breeds improved; if scientific drainages have been effected, and extensive wastes inclosed; it can surely not be said that there has been a want of encouragement to invest a capital in agriculture. The farther improvements made within the same period, the canals, the roads, the bridges, the harbours, and the docks, that have been either formed or improved, not by the public revenue but by the capital of individuals: the unexampled extension of manufactures and trade; the augmentation of internal wealth, which defies all comparison with any former portion of our history or of the history of any other state;—all this makes the committee entertain a doubt whether the only solid foundation of agricultural prosperity is not laid in abstaining as much as possible from interfering, either by protection or prohibition, with the supply of capital in any branch of industry. Can commerce expand, manufactures thrive, and great public works be undertaken, without affording increased means of paying for the production of the land? Must not the principal part of those productions, which contribute to the gratification of the wants and desires of the community at large, be drawn from our own soil—the demand increasing with the population, the population with the wealth of the state—and does not a great part of the capital employed in supporting our manufactures, trade, and public works, pass, by a very rapid course, into the hands of the occupier of the soil? Has not agriculture languished formerly in our own country, and at present in other

naturally fertile regions, from the want of such a stimulus; and in these countries are not the proprietors of land poor, and the people wretched, in proportion as the labour of the population is exclusively confined to the cultivation of the soil?

It will be for parliament to appreciate this view of the subject, and in its measures to reconcile it with the considerations of state-policy which forbid, on the one hand, that we should render ourselves too dependent for subsistence on foreign supply; or on the other that we should create by artificial means too great a difference between the cost of subsistence in this and in other countries: a difference which might have the effect of driving capital abroad, and of leaving our unpaid population to be maintained by the landed interest with diminished resources.

*Disadvantages of the Corn-Law of 1815.*—The principle of this law is to exclude foreign corn in seasons of abundance, and to give every facility to its introduction in years of scarcity. Adapted as it appears to such a purpose, its practical operation will often be found at variance with its object; aggravating at one time the evils of scarcity, and at another increasing the depression of price arising from abundance. Its enforcement prompts the grower to extension of home-cultivation by the hope of a monopoly-price; while its occasional interruption may deprive him of it when most wanted. To the consumer it holds out the prospect of a trade occasionally free, but so irregular as to baffle calculation, and to involve the dealer in more than the ordinary risks of mercantile speculation. At one time it exposes our market to be occasionally overloaded with foreign corn: at another, in the event of a considerable deficiency in our own harvest, it creates a competition on the continent, by the effect of which prices are rapidly raised against us.

If on the expiration of the summer-quarter, (15th, August,) our average price of wheat were 79s. 11d., our ports under the present law, would remain shut till 15th November: but if that average were 80s. 1d., whatever were the prospect of an abundant harvest, the import

would be open during six weeks or three months. In the former case, the prices might rise very high before we received any considerable supply; in the latter, a rapid import might reduce them to a level to which they would otherwise not sink. This was strikingly exemplified with regard to the import of oats in the last autumn, when, on the opening of our ports, a rise of from 30 to 50 per cent. occurred in several continental markets, the shortness of the time allowed for import causing the shipments to be made in great haste. In England, prices fell, but not in time to stop these imprudent adventurers; and a great loss was sustained both by the continental shipper and by the British farmer. Yet the amount of this import, about 727,000 quarters, was not a thirtieth of the annual consumption of oats in Great Britain.

The degree of fluctuation in our market under the act of 1815 has been great almost beyond example. Between January, 1816, and June, 1817, the price of wheat varied from 53s. to 112s.; while in the three months which ensued from June to September, 1817, it varied farther from 112s. to 74s. How far has this system in its favour the sanction of long usage? Its present form dates only from 1815, previously to which our corn-law knew, on the one hand, no absolute prohibition; on the other, no import without the payment of some duty, great or small. The provisions of the act of 1804 were that, when the average price of our wheat should be between 63s. and 66s., foreign wheat might be imported on a duty of 2s. 6d. per quarter; and, when our currency rose to 66s. or upwards, that duty was reduced to 6d. per quarter. When our average was under 63s., the import was subject not to absolute prohibition, but to the high duty of 24s. 3d.; which, however, generally operated as a prohibition.

What are, on a series of years, the comparative chances of deficient crops in this country and on the continent? They are probably greater in this country, since, from our less extensive territory and less varied climate, the effect of unfavourable weather in one district is not likely to be balanced by an opposite effect in another. The climate of Ireland being more variable

than that of England, the hazard of deficiency would be augmented if our dependence on Ireland increased. A similar result would probably follow by extending the cultivation of our poorer soils, which are more likely to be affected by ungenial seasons.

No article experiences so great a change of price as corn, in proportion to any excess or deficiency in the supply. Mr. Tooke, a witness particularly examined on this point, explained this fact as follows: a fall in the price of any commodity, not of general necessity, brings the article within the reach of the consumption of a great number of individuals, whereas, in the case of corn, the averaged quantity being sufficient for the supply of every individual, all beyond such averaged quantity operates to depress the market. The consumption of corn is, doubtless, greater when it is cheap than when it is dear, but in a small proportion to the surplus arising from one or two abundant seasons; understanding by an abundant season not one in which a deficiency of one kind of corn is made good by the surplus of another, but in which the leading articles of consumption are simultaneously abundant. Our growth is probably equal on an average to our consumption; and, as long as the British grower retains the exclusive supply, the fluctuation of our prices must range between 80s. as a *maximum*, and as a *minimum* the lowest price to which one or more abundant harvests may bring our corn, until it finds a vent in exportation, or is raised at home by the occurrence of an unfavourable season.

Reasoning from the past, what prospect appears of a rise of prices from the recurrence of an unfavourable season? Dr. Smith, and Mr. Burke in his "Thoughts and Details on Scarcity," agree in opinion, founded apparently on long observation, that favourable or unfavourable seasons occur not at short intervals, but at rather long cycles, and irregularly. If that opinion be well founded, the committee need not add how hazardous must be the situation of the grower of corn, in a country in which the lowest price accounted necessary to afford him a remuneration com-



siderably exceeds the prices of the rest of the world.

The estimate of a remunerating price appears to be subject to much misconception, for that which was deemed such in 1815 may be more or less than a remuneration in 1841, under a very different state of things. On the one hand the sum of 80s. may now represent a considerably greater value; while, on the other, if the necessity of increased supply requires a resort to inferior land, it may have become eligible to plough up tracts which in 1815 would not have paid for cultivating. If the necessity of indemnifying the cultivator of the inferior soils should lead to our raising the import-limit above 80s. per quarter, an undue profit would accrue to the owner or occupier of the superior soils whose charges would not have been increased. It would thus appear necessary to advance, from time to time, our import-limit, though the charges of raising corn on good soils should remain the same; and if in other countries prices did not undergo a corresponding rise, the result of every such advance must be to expose us to greater and more grievous fluctuations.

The scarcities of the present age have furnished us in some degree with a knowledge of the amount of aid that can be afforded by the surplus produce of the continent. Any rise in our present import-limit would discourage the extension of that supply: it would tend to aggravate the fluctuation, and other inconveniences, which appear connected with the principle of alternate monopoly and free import.

*How far can these Disadvantages be remedied?*—Our past experience is decidedly in favour of a repeal of our present law, and of laying open our trade in corn with all nations; subject only to such a duty as might compensate to the British grower the loss of the encouragement arising from the high freight and other import-charges during the last war. Such duty ought to be calculated on the difference of expense between this country and those from which our principal supplies have usually been drawn, taking into account the freight and other import-charges. The committee are, however, fully aware of

the unfitness of such a change at this moment, when a great accumulation has taken place in our warehouses as well as in the shipping ports of the continent. The present price is too low to represent the cost of corn, even to the foreign grower: it is the result of a general glut, and of an extreme distress on the part of those by whom it has been raised, or by whom it is held.

Is it not practicable, however, to modify the operation of our corn-law, so as to prevent on the opening of our ports, the introduction of foreign corn in a sudden and irregular manner? This, in the opinion of the committee, might be attained by imposing a fixed duty on the import of foreign corn; accompanying, however, this duty with a reduction of the present limit, that the price might not be raised beyond what it might reach under the existing law: an effect which the committee are very desirous of avoiding. When corn shall have reached some given high price, the duty should cease altogether.

What, it may be asked, ought to be the new import-limit at which corn might be admitted, subject to duty? This the committee do not profess to determine: but it evidently ought to be such as not to place the occupier of our inferior soils in a worse situation than at present. Without inquiring how far the cultivation of these inferior lands may have been expedient, the committee can have no difficulty in stating that capital already vested should be protected against revulsion: but farther the protection ought not to go; since the growth of our population and the accumulation of our internal wealth would continue to give, as they have given during the last sixty years, the most effectual encouragement to agriculture. Nothing is to be dreaded, as long as our institutions afford security to capital and industry:—as long as capital and good faith keep pace with that security, and as we avoid any course which might drive capital to seek a more profitable employment in foreign states.

The principles of the freedom of trade are now almost universally acknowledged to be politic as well as liberal: but, while it is the duty of parliament to revert to these principles as far as they are practi-

cable, in the corn trade as in other branches, it is also incumbent on it to spare vested interests, and to deal tenderly even with obstacles to improvement when created by the long existence of an artificial system. In all their suggestions, the committee are desirous to secure the country from a dependence on other states for subsistence; and still more to preserve to the landed interest the weight and ascendancy which it has enjoyed so long, and used so beneficially.

*Effect of Taxation on Agriculture.*—A comparison of the amount of our taxation with that of other countries, as they stood in 1792 and as they now stand, might, if confined to an arithmetical statement, lead to an unfair estimate of the increase that has taken place in the interval. Considering public burdens with reference to population, England is the most taxed portion of Europe, excepting perhaps Holland: but, measuring them by the aggregate of national capital, or of national income, the proportion of the taxes to the income or capital of each individual is perhaps smaller in England than in several states of the continent, or even in Ireland. Such proportion, also, is not perhaps materially greater now than at former periods, when our national capital, our population, and our public revenue, were all far below their present amount. However this may be, it is not less the duty of government to aid individual accumulation by diminishing our expenditure, since the weight of taxation must be more severely felt in proportion as the money income derived from agriculture, trade, and manufactures, shall undergo a diminution. This has been the case of late years: the pressure of taxation has been increased in proportion to the rise of our currency; and no exertion should be spared to reduce that pressure, as nearly as possible, in the degree in which it has been augmented.

All taxes tend, in the opinion of the committee, to abridge the resources and comforts of those by whom they are ultimately paid: but no grounds seem to exist for believing that the profits of farming are more affected by taxation than those of trade or manufacture. Were such the case, it must obviously be tem-

porary, since capital would be changed from one mode of employment to another, until the proper level were restored. In some of the petitions referred to the committee, the parties have gone so far as to allege that, to remunerate the grower, the price of corn ought to increase in the same ratio as the public revenue. Without denying that the cost of raising corn may be in some degree affected by an addition to our taxes, and that any increase of the charges more particularly paid by the farmer, (such as tithe and poor-rate,) must tend more directly to augment that expense, it is obvious that the price of corn in every country is regulated by the cost of tillage on inferior soils. Thus no direct connexion subsists between the expenditure of the farmer and the amount of taxation. The latter might be increased and the price of corn might fall in a country, if the quantity required could be raised on the same soils at a reduced expense, in consequence of improvements in husbandry. In the three wars of the last century, begun respectively in 1740, 1756, and 1775, no rise appears to have taken place in corn: in the last, prices were even somewhat lower than in the preceding peace; though there never was a period when the burden of taxation seemed to press more heavily on our resources, or gave greater reason to apprehend that a part of that burden was paid not from our income but from our capital. During the late wars, on the contrary, great as was the increase of our taxation, the number of extensive undertakings begun and completed by individuals afford a proof that the increase of the capital of the country must have been progressive and considerable.

*Proposed Duty of 40s. on Foreign Wheat.*—A fixed duty to so great an amount as 40s. could be considered in no other light than as a prohibition; for, during the enforcement in former years of the duty of 24s. 3d., no importation took place to any extent. Heavy duties on the smaller articles of agricultural produce are all open to the same objection: they would go far towards the total annihilation of commercial intercourse, and would probably never have been proposed to parliament, had not a very exaggerated

notion existed of what is deemed protection to our manufactures. One witness, to illustrate his argument, furnished a table of the high custom duties payable on foreign manufactures; without adding that in most of these, (for instance in the article of glass,) the custom duty is intended to countervail the excise duty paid on British manufactures of the same kind. In fact, it may well be doubted whether any of our principal manufactures, except silk, derive benefit from the enactments in the statute-book: if we can afford to undersell foreign manufactures of cotton, hardware, and even of woollen, in foreign markets, how could they successfully compete with us in our own?

*Warehousing of Foreign Corn.*—Several of the petitioners have called for a repeal of that clause in the act of 1815, which allows foreign corn to be lodged in our warehouses at any time, whether it can then be taken out for home-consumption or not. In support of their plea, they urge two arguments; first that foreign corn thus absorbs capital which would otherwise be employed in purchasing corn of British growth; and, secondly, that the notoriety of a quantity of foreign wheat being deposited in our warehouses tends to keep the market in a depressed state, from a dread of its being poured in for sale as soon as prices rise above 80s. Of these arguments, the former is evidently erroneous; since no fixed amount of capital is appropriated to the trade in foreign corn, nor does the value of all the foreign corn at present in this country exceed 1,000,000*l.* sterling. As to the second objection, it is unquestionably true that the present accumulation of foreign corn would have a considerable influence over prices here, on its being admitted to sale in the event of a deficient harvest; but would not that influence be nearly or altogether the same, if the accumulation took place in the ports of Holland, Flanders, or other parts of the continent, several of which are as convenient as our own for access to the Thames. Besides, the warehousing of foreign corn in England gives us some degree of independence in the supply of our wants; lessening in a season of scarcity, the power of foreign states to impose a duty or a prohibition on

exports to this country: a measure by no means unlikely, since a large demand from England creates an increase of price, frequently injurious and always unpopular, in the country from which it is supplied. During the memorable scarcity of 1800 and 1801, the Prussian government imposed a tax of 10s. per quarter on corn exported; declaring expressly that its continuance or removal would depend on the continuance or cessation of our wants.

*Conclusion.*—It would have been highly satisfactory to the committee to terminate their labours by pointing out some immediate measure of alleviation; and could such an expedient have been suggested, they would not have been restrained from adopting it though it formed a temporary departure from sound principles of general policy. When, however, after an anxious inquiry, they are unable to discover any means of immediate relief, they know too well their duty to the House, and respect too much the manly character of the agriculturists, either to disguise their view of the origin of their difficulties, or to recommend any mode of relief pointed out by the suffering parties, if it be founded, in the opinion of the committee, in delusion. As far as the present low prices are the result of abundance of home-growth, no legislative provision can raise the market: as far as they proceed from the increased value of money, they are not peculiar to the farmer, but common to him with many other classes. In his case, however, the effect of the latter cause has been aggravated by its coincidence with an over stock of supply; and by the comparative slowness with which charges, particularly the rate of labour, accommodate themselves to a change in the value of money. A rise in such value bears hard on a tenant farming with a borrowed capital, and under the engagements of a lease; as also on the land owner whose estate is incumbered with mortgages, or other fixed payments. Relief, the committee hope, will ere long be found in a partial reduction of the rate of interest of money, now that public loans have ceased; that accumulations of capital in the hands of individuals are probable; and that the sinking fund bids fair to have a steady operation

on our public debt. Such an alleviation has been produced in former intervals of peace; and if at present the want of it has become more urgent, the salutary result will, it is to be hoped, be more speedily effected. The committee look to it with the more anxiety, because, amid all the injury and injustice which an unsettled currency (an evil, they trust, never again to be incurred) has in succession cast on the different ranks of society, the share of that evil which has now fallen on the landed interest admits of no other relief. Our difficulties, great as they unfortunately are, must diminish in proportion as contracts, prices, and labour, adjust themselves to the present value of money: a change which is now in progress; and which, the committee are satisfied, will continue until the restoration of that balance which shall afford to labour its due remuneration, and to capital its fair return.

#### LECTURES ON POETRY.

BY T. CAMPBELL.

##### Lecture IV.

##### GREEK POETRY.

The fate of the surviving conquerors of Troy, whose thrones and dominions had been exposed to usurpation and violence during their absence, constituted an era in the history of Greece as eventful and as fruitful in traditions as the Trojan war itself. Those traditions, long after the time of Homer, were taken up by the Cyclic poets;\* and we hear in particular of one work called the *Norroi*, or returns (of the heroes from Troy), in which their histories were collectively embodied. In that work, as well as in Greek tragedy, princes were com-

\* There was a controversy even among the ancients respecting the exact range of works that were to be included under the name of Cyclic poetry; but the term I think, is often used so widely as to be applicable to all the epic and narrative mythological poetry of ancient Greece subsequent to Homer and Hesiod. It comprehended a series of works, the titles of which are now almost their only remains, though their various subjects embraced a connected fabulous history of the world, from the marriage of the Earth and Heaven down to the siege of Troy, and even to the adventures of its returning besiegers.—See *Heyne on the Second Æneid of Virgil*.

memorated who were certainly of more importance to the general interests of Greece, than a chief whose dominions were so remote and insignificant as those of Ithaca. But still the name of Ulysses had great attractions for the best and oldest of poets, as the subject of a sequel to the tale of Troy. The maritime distance of his home justified a tissue of fabulous events, which could not have been consistently introduced in describing the return of a chief to any neighbouring shore of Greece. Even the poverty of his dominions bespoke an interest to the imagination, from their seeming less to invite his ambition than his local and domestic affections.

It is true that Ulysses is a hero much more according to ancient than to modern taste. His sagacity is a little too subtle for our ideas of the sublime. Minerva herself rallies him with having been a cunning urchin in his childhood, and always expert at equivocation.\* But the goddess accuses him of this with so much good-humour, as to shew that she was not displeased with it; and in judging of Pagan morality, we must make allowance for those circumstances of existence which rendered subtlety an almost necessary ingredient in human wisdom. If we consider too the trials through which Ulysses is feigned to pass, we shall conceive that the poet was bound, in consistency, to furnish him with a cautious as well as a hardy character. He loses his companions—he goes forth alone against the world—he has to break through supernatural dangers and allurements, to seek the only spot of earth that was sacred to his virtuous affections; and his head grows gray before he reaches it. Even with this great object at his heart, however, the traits of his circumspection and fortitude are not overcharged. His character is only generally marked by them. The poet was too natural to represent him as a mere abstraction of stoicism: on the contrary, he displays him making several very human-like aberrations both from virtue and prudence, forgetting himself at one time in the arms of Circe, till his crew are obliged to remind him of his wife and family;† and on another occasion, indulging in very ill-

\* *Odys. xiii. 291.* † *Odys. x. 473.*

timed merriment upon an angry giant, who is very near repaying his sarcasms by pelting his ship to the bottom.\* His temper, however, upon the whole, has an impressive strength and serenity; nor is even his accustomed obduracy without its use in heightening the pathos of his situations. For when Ulysses is moved, our conception of what he feels is heightened by remembering the fortitude that gives way to his feelings; and the torrent of his sensations appears the deeper and stronger for the mass of resistance which it overcomes. His heart is not lightly susceptible, but, when it is touched, it is with earnest and long vibrations. Thus when his social affections are brought forth in the sunshine of Alcinoüs's hospitality, when he wraps himself up in his mantle, and surrenders himself, at the voice of poetry and music, to involuntary bursts of sensibility, or when he loses even his habitual patience at Penelope's scruples to recognize him, or when he meets his aged and fainting father in the garden, where he had spotted in his childhood—his emotions amidst those scenes affect us doubly from our contrasting them with his self-command on other exquisitely trying occasions, where the poet describes him as looking with impassive eyes, "*immovable as horn or steel*."

Whilst the *Odyssey* resembles the *Iliad* in its diction and descriptive manner, it opens an interesting variety in epic poetry. It concentrates our sympathy on fewer characters, its interest is less warlike and public, its concourse of agents is less magnificent, and its tone of action and feeling is less impetuous. On the other hand, it has the twofold charm of being at once the most familiar and the most fanciful of all ancient draughts of existence, abounding in the minutest traits of domestic manners, and at the same time teeming with a wildness of imagination, which, classical as the poem is, may be truly denominated romantic. Had the poet been equally disposed to have sported with the marvellous in the *Iliad*, the vicinity of the Troade to Greece would have been a check upon his fancy. But the scene of fiction was now to be shifted, and expanded

\* *Odys. ix. 481.*



over scenes that might be peopled at will with giants, enchanters, and semideities, or extended even to the shadowy empire of the dead. Homer has ventured into that darkest realm of fancy, the intrepid and long-distant precursor of Virgil and Dante. It would be unfair to compare a mere episode of the *Odyssey* with an entire fabric of poetry, which the last of those geniuses has devoted to the same subject. But Homer's world of death has its sublimity, though more simple than that of the Florentine poet. He gives expressiveness to human character even in delineating its spectral shade. Tiresias first rises to Ulysses, and awfully reveals to him the will of Heaven. Ajax retains his obstinacy beyond the grave. The visitant of hell conjures him to forgive their earthly quarrel, and declares with much weeping that he repents of his triumph. But Ajax spurns all his tears and entreaties, and paces back indignantly into the gloom.\* Achilles's soul is still impassioned amidst the dead. He demands if his sire be respected in the world above, and taking fire even before he is answered, at the bare imagination of his aged father being insulted, wishes but for a moment of life in his native mansion, that he might show an arm to make the fiercest of his enemies tremble. He next inquires for his son, and when informed that he had become a hero, exults with joy, and measures the meadows of asphodel with a larger stride. The most touching apparition in this scene of the *Odyssey* is the hero's mother—Ulysses would weep upon her neck, but she is a spirit, and cannot be embraced—he questions her by what death she had died, and she replies, "I died, my son, of no other death than of grief for thy departure from Ithaca."

There is scarcely any conception of the supernatural that belongs to romantic poetry, some original germ of which may not be found in the *Odyssey*. Perhaps the light and elegant generation of fairies are the only very poetical beings which Romance has added from an unclassical stock to her visionary empire. It has been sometimes al-

leged, indeed, that even *their* prototypes may be traced in the pigmies of antiquity; but our fays, upon the whole, would seem to be of a mixed descent from the elves of Scandinavian and the Peris of Eastern mythology; and it must certainly be owned, that in wit and accomplishments, and, above all, in their taste for dancing, music, and moonlight scenery, the well-bred fairies of the middle age are quite a cultivated people compared with the heathen pigmies.

Classical poetry is, in general, too justly to be charged with deficiency in that refined and delicate bloom of female character which gives a charm to modern life, by exalting sensation into sentiment. But that tone of classical gallantry which is not degrading to woman, is of later date than the days of Homer. It is not even to be found in Hesiod, though he has a woman-hating spirit, unworthy of his other traits of amenity, and still more unlike the decorous simplicity of Homer. The genius of the later Asiatic school of Greek poetry did justice to many great and beautiful sentiments of the Greek mind; but we know that the vicinity and manners of Lydia had a powerful influence in corrupting the Ionian Greeks, and no very exalted moral notions of the sex were likely to come from that quarter. Again, the republican institutions of Greece were much more favourable to the rights and dignity of man than of woman; and hence even the Attic muse is little acquainted with exalted amatory sentiment. To speak of Homer as a romantic poet of love, would, no doubt, be very idle; but still, even on the subject of that passion, he has a negative merit and a primitive modesty which discriminate his works from the entire mass of classical poetry. In him the simplicity of Nature preceded her earliest corruptions; and, little, as he says of love, in the abstract his females are very loveable. The innocent Nausicaa carries us back to the golden age. His Penelope acts as his muse endites; the one exemplifying womanly virtue to be older than systems of morality, the other showing inspiration to have gone before critical laws. Nor need we fear to compare even his less virtuous females with their seduc-

tive parallels in romance. In forming such characters, the romantic fablers have generally aggravated the horrors of Circe; and in their zeal to make the fascination of beauty appear detestable, have masked their Duessas and Alcinas in temporary charms, which drop off at the conclusion of the story, and leave the admirer with a witch or fury in his arms, to reflect on the rashness of trusting to fair appearances. Homer has no such metamorphoses, for even his Circe appears always very comely, and ultimately proves very kind. As to Calypso, she is a being of a higher order, the poetical prototype and mother of all gracefully voluptuous enchantresses, and we may safely affirm of her as of Eve, that she is "the fairest of her daughters." Neither base nor malignant, but immortally fresh and beautiful, she is the simple and abstracted image of allurements. Her island is an earthly paradise of peace and love; but there is a calm breath and a natural bloom in its scenes, very unlike the distempered flush of imagination, that too often meets in the romantic poets. Even with respect for the genius of Fenelon, we cannot pass without disadvantageous comparison, from the artificial graces and coquetry of the French Calypso, to the divine and implicit blandishments of the Greek original. Ulysses, in leaving her, pours forth his whole soul as an apology for bidding her adieu; and though she receives the command of Jove to dismiss him with a burst of indignant anguish, yet she obeys the behest, and, after a tender remonstrance, treats him with so sincere an affection, that it is unnecessary for the most wary of men to accelerate his departure by any stratagem. We pity her sorrows, and we have abundantly more respect for the man who could tear himself away from so seductive a being, than if her luxurious and celestial image had been degraded by traits of human or fiendish fraud and revenge.

The most pleasing conception of social existence that is afforded by the *Odyssey*, is met with in those books which describe the hero's short stay with Alcinoüs. The games, the palace, and the garden of the Phæacian Prince, and the mixture of primitive manners with the peace

\* A passage closely copied by Virgil in the description of "fugit indignata sub umbras," applied to Dido at the sight of Æneas.

and festivities of his court, render this part of the poem a scene of relief to the imagination, on which we repose like a traveller on some delightful resting-place, where the turf smells sweet, and where the balmy air repays him for his past, and refreshes him for his future journey. It is here that Ulysses relates his adventures, after the natural caution and reserve of his heart have been thawed away by kindness and hospitality, and his pride as a soldier awakened by Demodochus's songs on the battles of Troy. From Phœacia he proceeds to Ithaca, where he is represented as continuing during the remainder of the poem. The tardy progress of events in this latter half of the *Odyssey*, has been sometimes blamed. La Harpe says that nothing occurs during those twelve books corresponding to our expectations. This remark must mean either that the incidents should have been more splendid and surprising, or that they should have been pressed into closer room. But let us ask if either of those circumstances was desirable. Do we wish for domestic, individual, and familiar interest—if that is not to be found in those books of the *Odyssey*, then where is it to be found? If the French critic means that that was not enough, and that we ought to have had something more of splendid and public event, in order to correspond with our expectations, then I contend that the poet really treats us to what is more valuable and endearing than that which the critic demands. Nor is the term endearing, too strong for the character of this part of the *Odyssey*, with the exception of only one deep and deplorable blot, namely, the execution of the miserable domestics. That incident was wholly unnecessary to Ulysses's victory over the suitors, and it is so revolting amidst the strong human sympathies which the rest of the poem excites, that we may freely give it up as a drawback on the value of the *Odyssey* to La Harpe, or any other critic. But still this is but one, and but a small part of an otherwise delightful narrative. Let us look to the rest of the story, and ask what events could be more appropriate than the descent of the hero's tutelary deity, the return of his gallant son, the insults of his foes, and the sympathy

of his friends, in those recognitions which successively exhibit human character in fresh attitudes of surprise and fondness? Every friendly object that meets Ulysses is poetically interesting, from the blue-eyed Minerva, down to the dog that expires of joy at his feet. It is true that they are not crowded together in succinct narration, for the sake of saving trouble to a languid curiosity, but that is not the frame of mind which the *Odyssey* inspires. A brave man perilously approaching all that is dearest to him, and watching for the moment of a victory to be won by his single sagacity, and almost by his single arm,—compelled to suppress his own emotions and to silence those of others, till it is time to burst from his concealment—such a hero infects us with his own spirit: his deliberation rivets our attention to minute circumstances, and as he throws off his disguise step by step, the delay of his triumph leaves space and time for our sensations of sympathy to accumulate. This is not the language of exaggeration. Those who think so, after reading the *Odyssey*, must have looked upon its language, but not its scenes—like the student who committed the words of Euclid's demonstrations to memory without the diagrams, saying that he never minded the pictures. But it lies in the nature of the human heart, that few can have perused, without enjoying them, such pictures of life as the homestead of the faithful Eumæus receiving the forlorn hero; or his son Telemachus's first interview with him; or the scene of his nurse Euryclea recognizing him as she washes his feet, and overturning the brazen vase in her agitation.

Ulysses's discovery of himself to Penelope is made with a fulness of preparatory circumstances that is due to her importance as the object of his solicitude. Her prosperity comes to her, not like light bursting suddenly upon darkness, but like the rise of a beautiful morning, kindling from dawn into perfect day. And though we had known her before, yet it is not till after the hero's return, and amidst the dayspring of her better fortunes, that we have time to appreciate the blended strength and sensibility and sweetness of her character. Protected by her humanity from the brutal insults

of the courtiers, her husband is admitted to her presence, and continues to converse with her, whilst she is wholly unconscious who he is. The stranger pretends to have known Ulysses, and describes the very cloak with its golden clasp, which he had worn. It was the cloak, Penelope exclaims, which she had folded round him at his departure; and promising gratitude and protection to her guest, she mourns for the husband as absent, who sat beside her. The scene displays Ulysses with uncommon interest; and whilst we admire his firmness in resisting a premature discovery, we easily pardon him for a fraud that elicits tears so lovely and touching.

The image of Penelope is for some time very properly withheld, whilst the scene of combat with the suitors is going on. But on the following morning she is described as awakened by Euryclea, with the tidings of the guest being Ulysses; and embracing the domestic, she weeps in transports of joy. But as she descends the stairs of the palace prompted by her first impulse to throw her arms around him, an idea enters into her mind of the possibility that he may be a pretender; and this suggestion will seem to be natural and probable when we recollect that they had already had an interview, during the whole of which his appearance, altered by time and toil, had not recalled him to her memory. To the reader who all along knows the stranger to be Ulysses, her scruples may, on a hasty judgment, appear superfluous; but in reality they are no more than what is due to her honour and safety. Telemachus had given his confidence, but he was young; the servants had been persuaded, but they might be credulous. It is therefore no paradox to say that her hesitation here marks the decision of her character, and that her caution springs from the sacredness, and not the coldness, of affection. She enters the hall, where Ulysses is sitting opposite the fire beside a pillar, expecting her to recognize him. But their eyes are described as riveted in silence on each other; and it is not till a second interview that the recognition is complete. Then indeed a speech, which she elicits with great art, but with a perfect appearance of chance, from her he-



ro, produces a picture of her assurance, that triumphantly rewards us for our past impatience.

He ceas'd—Penelope with fluttering heart

And fluttering knees, and eyes that stream'd for joy,

Confess'd the proof—sprang to him—threw her arms

Around him—kiss'd his forehead, and replied,

Ulysses, wisest at all other times Of human kind, ah be not angry now,

Nor frown on me—the gods themselves ordain'd

Our ceaseless sufferings—envied us the bliss

Of undivided union sweet enjoy'd

Through life, from early youth to latest age.

No, be not angry now; forgive the fault That I embraced thee not as soon as seen,

For never hath my spirit lost the dread Lest some deceitful alien should perchance

Beguile me, for our house draws numerous such.

\* \* \* \* \*

So saying, with fresh sympathy she touch'd

His inmost soul; and folding in his arms His sweet and most accomplish'd spouse, he wept.

Welcome as land appears to, those who swim,

Whose gallant bark, by winds and rolling waves

'Assail'd, hath perish'd in the boundless sea:

So welcome in her eyes Ulysses seem'd, Around whose neck winding her snowy arms,

She clung as she would lose him never more.—*Couper's Odyssey.*

It is shortly after this interview, namely, at verse 296 of the 23d book, that in the opinion of the most celebrated Alexandrian critics the *Odyssey* really terminated. This, as Eustathius informs us, was the belief of the grammarians Aristophanes and Aristarchus; and the prophecy of Tiresias in the eleventh book,\* as well as the speech of Ulysses to Penelope in the 23d,† appear strongly to support it. Admitting this supposition, however, I still cannot but sincerely admire the visit of the hero to the aged Laertes in the 24th book, were it ever so spurious. The traits of Ulysses' countenance at the sight of his father's misery, when the poet says that his "nostrils throb-

bed with agony close pent," are anatomically true to nature; and the tokens by which he awakens the old man's recollection of past scenes during their dialogue in the garden, when he points out the pear-trees and the apple-trees, which Laertes had given him when a boy—these touching circumstances, whether we owe them to Homer or not, have an Homeric spirit, and go directly to the heart.

It is strange that this old poem, in which the pleasing affections are so often shown us in the imperishable beauty of truth, should on other occasions abruptly and absolutely repel our sympathy. From what has been already said it will be easily understood that this remark refers not to the humble and homely picturesqueness of many parts of the *Odyssey*—such as the disguise of Ulysses in the character of a mendicant, and his boxing-match with the ruffian Irus. For I apprehend that the critics who quarrel with Ulysses in this shape, are more inhospitable than the courtiers, and greater ruffians than Irus himself. Those enemies insulted him without being aware of his rank, whilst the others, his nominal friends, are ashamed of him, only because he is not dressed like a gentleman. But if Ulysses is degraded in the *Odyssey*, it is not by rags, but by a deliberate revenge, which stoops to strangle defenceless women and to mutilate a wretched goatherd. Fierce as the spirit of the *Iliad* is, it has nothing of this cool barbarity. It may be remarked, however, that in the midst of this not very glorious catastrophe, Ulysses utters a sentiment worthy of accompanying better deeds. When Eurycléa exults over the domestic carnage, he checks her indecent joy by an expression which Christians might have sometimes remembered as a rebuke to their festivities for victories obtained in wars of injustice or doubtful necessity.

—Unholy is the voice  
Of loud thanksgiving over slaughter'd men.

Of the other works attributed to Homer, I shall mention only the most important. A copious list of the whole is to be found in Fabricius' *Greek Library*, and in Mr. Knight's *Prolegomena ad Homerum*. Much light undoubtedly would

have been thrown on the manners and humour of antiquity, if time had spared to us the *Margites*, a comic poem, said to have come from the author of the *Iliad*, and from which Aristotle supposes Greek comedy to have originated. The history of this poem is so obscure, that I shall not trouble the reader with any uncertain opinion of my own upon the subject of its probable author.\* But the fact of Aristotle ascribing it to Homer certainly shows it to be very ancient. Four lines only of this Dunciad of antiquity have been gleaned from the authors who have spoken of, or alluded to it. From these it appears, that its author was what we should call, in vulgar language, a jack of all trades, but good at none—

ΠΟΛΛὰ ἑνὶ τῷ σπύλῳ, καλὸν δ' ἑνὶ τῷ τεύχεῳ

a man of various knowledge, but stupid in every thing. Some traditions of antiquity represent this *Margites* in the light of a mere idiot, unable to reckon beyond the number five, and abstaining from his bride after his marriage, lest she should complain of him to his mother. Such traits appear too silly to have been borrowed from a poem which Zeno illustrated and Callimachus imitated. But the fragments of the wreck are too small to give us insight into this long-lost cargo, and we can only guess at the value of the poem by its once renowned popularity.

The *Batrachomyomachia*, or battle of the frogs and mice, can be pronounced with much more confidence to have been no work of Homer's. It may have been written in Egypt by some poet of the Alexandrian school. At all events, not to mention the use of δειραί, or writing-tablets, it alludes to three things of very un-Homeric appearance—a tailor, a trumpeter, and a mouse-trap. The first is a modification of man very unlikely in the heroic ages—the office of the second is never mentioned in Homer's armies, and the third is an invention which Mr. Bowles could easily prove to be too artificial for a sublime and poetical state of society.

\* Mr. Harles, in the last edition of Fabricius's *Library*, refers to an able disquisition by Wissemberg on this subject, which I confess I have not perused.

\* Vide *Odys.* xi. 122.

† *Odys.* xxiii. 264.

Thirty-three hymns are extant under the name of Homer, which, though they cannot be proved to be his, are still the relics of an old school of his imitators. Lines from more than one of them are quoted by ancient authors, who ascribe them to the father of epic poetry. And when Thucydides is mentioned as one of those ancients, it will seem, at first view, unlawful to entertain any scepticism on the subject. But when Thucydides praises the hymn to Apollo\* as Homer's, it may be doubted in the first place, whether he believed, or had examined, the tradition respecting its author. He quoted the poem, no doubt, satisfied that it was very ancient; but he was not writing on the poetical antiquities of his country—it was sufficient for his purpose to call the work by the traditional name of its composer, and it would have been stepping uselessly out of his way to have sifted or disputed the grounds of that tradition. But if Thucydides really thought the hymn to Apollo to be Homer's, his opinion was certainly not universal in Greece†. For neither the Pisistratidæ, nor Plato, nor Strabo, entertained it, and none of the Alexandrian critics impute this hymn to the great poet. Moreover, its fictions appear to be of a later date than those of the *Iliad* and *Odyssey*; and though its language is Homeric, its poetical spirit is of the most opposite character. I differ, it is true, from those who abuse this Delian anthem. It is to my own feelings sweet and enthusiastic. But it is no more like the voice of the old poet, than the music of the flute is like the peal of the Haarlem organ. It is the work of a being of a different mind. It glows with a softly lambent enthusiasm, but not with

\* Thucydides mentions the poem only by this general title. In our editions the lines are in the Hymn to the *Delian Apollo*.

† The poet of this hymn calls himself the blind bard of Chios. This would settle the birth-place of Homer, if we were sure of its author. But the unsettled dispute about his birth-place among the ancients, shows either that they had little belief in the Homeric authenticity of the hymn, or that the passage about Chios is interpolated. Else why did the ancients consult oracles on the subject?

‡ Vide *Matthiæ animadversiones in Hymnos Homericos*, p. 28.

Homeric fire. We need scarcely add, however, that its contents, and the historian's allusion, prove it to be a very early composition—possibly older than the age of Alceus and Sappho. Thucydides, in the 90th olympiad, brings it in evidence of games that had been anciently celebrated in Delos. Now we know from history, that those games, after having fallen into gradual disuse, had ceased 35 olympiads, or almost a century and a half before the time of Thucydides. But the poet speaks of his having witnessed those Delian games in all their spirit and beauty. And we may well believe that he had seen them, and that he was a rhapsodist of the earliest breed. Had he been a recent poet, it is not very likely that he would have been cited as old authority by Thucydides, or confounded with Homer even by vulgar tradition.

Pausanias also quotes verses from the hymn to Ceres. It was not until the discovery of the Moscow MS., in the last century, that those verses were found in any copy of the Homeric hymns. But in that treasure they were brought to light, together with several Homeric hymns which had been long lost. It is true that some things which Pausanias says on the subject of Ceres and her hymn are by no means cleared up, even by the Moscow MS. And it has therefore been concluded, that Pausanias's copy of the poem could not have been quite the same with that which the learned world was so rejoiced to discover. Still, however, that discovery has restored Pausanias's lost citation; and thus the hymn, as we possess it, is in part identified with a strain which the Greeks, in that traveller's time, believed to be of the highest antiquity.

It has been usual with those who have given a summary history of Greek poetry, to assign the composers of these hymns to the eighth century before Christianity,\* and in a brief and general view of the subject, they are not probably far wrong in doing so. That century may well be assumed to have been the golden age of Homeric imitation, and of Epic hymns. In the seventh century B. C. new poets present themselves, quitting the

epic manner and measure of Homer, and occupied more with present events, and their own passions, than with the legends of antiquity. Unlike that new Ionic school, the bard of the hymn to the Delian Apollo reminds us of the old Homeridæ of Chios, who were called the family of Homer, no doubt in a mere metaphorical sense, although the fond vanity of their countrymen gave them out as the poet's real descendants.\* Other Homeridæ afterwards sprang up in other parts of Greece, and they are honourably mentioned by Pindar. In the age of Socrates, we find, that the recitations of the Rhapsodists were not confined to the Homeric, but embraced all kinds of epic and lyric poetry;† and from the same source we learn that their respectability was not proportioned to the variety of attractions which they tried to give their profession. On the contrary, their decline in Greece reminds us, in some respects, of the history of the Troubadours in modern Europe. It seems the Greek rhapsodist grew at last a very fantastic personage: overstept the modesty of Nature in repeating poetry—acted, or more probably overacted, the passions in what he recited—took to wearing foolish ornaments and crowns of gold—and was moreover (at least in the eyes of philosophers) indelicately greedy of gain. Unworthy as these degenerate rhapsodists were, either to recite or imitate Homer, still some of the hymns in the collection we possess must be believed to have been composed at a later period of the rhapsodists' profession than the eighth century before Christ. Whether a rhapsodist or not, the author of the hymn to Mars has every appearance of having lived even later than Plato. He alludes to the seven planets, and describes the God wheeling his fiery orb amidst their number.

If it were necessary to disprove this strain being Homer's, this would be an irrefragable proof. For neither he nor Hesiod mention any of the planets excepting Venus, and her only in general terms as a star. Nor does Mars' moral character in the same hymn correspond a bit better with Homeric ideas than his

\* Strabo, XIV. p. 645.

† Plato de Legg. p. 658 Item in *Ione*, p. 533.

\* Ex. gr. Koppen in his introduction to his *Griechische Blumenlese*.

planetary promotion. For he is invoked as the abettor of justice, and the guide of righteous men. This might be the martial sentiment of Greece when she had triumphed by the sword over the invaders of her liberty; but it is not the conception of Mars afforded us by the *Iliad*, where his own father Jupiter accosts him as the most odious of the gods who inhabit Olympus.—The hymn in question, however, brings us not only out of Homer's age, but seems to present us with the abstract conceptions and physical philosophy of maturer Greece. I am pretty certain that no Greek author earlier than Plato enumerates the planets;\* and I find Lalande, in his history of Ancient Astronomy, confidently of opinion, that the Greeks knew nothing about the planetary courses till Eudoxus and Plato imported science from Egypt.†

It has been conceived, with great appearance of probability, that these Homeric, or if we might coin the title, Homeric, hymns, were composed by the rhapsodists as overtures or preludes to other poems, which they recited.‡ If this was not the case with respect to them all, it is at least to be inferred to have been so with regard to some of them, from such a verse as *Αὐτὰρ ἴσῃ καὶ πρὶς καὶ ἀλλῇ μῦθον* *αἰ δ' ἔς, §* and lines of similar import, with which they conclude. Besides, Thucydides and Aristides|| mention this species of hymn by the express name of *προοίμιον*, or prelude; and Pindar speaks of the Homeridae tuning their proem to Jove.

The proem, or prelude, however, was not always addressed to Jupiter, but occasionally to some other deity, or deified hero, the patron of the place where the rhapsodist found himself, or of the festivity at which he assisted.

The majority of these hymns are only short invocations. Some of

\* Dialog. Tim. Loc. de anima Mundi. Plat. Oper. tom. iii. p. 93. Edit. Steph.

† Lalande Astron. vol. i. p. 311.

‡ The hypothesis was first suggested by Hemsterhusius, and afterwards taken up by Wolf.

§ Hymn in Apoll. in Merc. in Cerer. in Vener. &c.

|| Aristides, tom. ii. p. 409.

them, however, have a breadth and freedom of narrative that justify our calling them Epic hymns, and in these few we have a species of Greek poetry, agreeably diversified by incident and description, from the wearisome tissue of laudatory epithets in the so called Orphic hymns. It is true that their subjects remind us of fables rather palling familiar to our school-boy memories; such as the wanderings of Latona in quest of a place to bring forth Apollo, the slaughter of Python, the loves of Venus and Anchises, &c. But, stale as those legends may be, they are the outlines of a creed of superstition, for studying the history and spirit of which it is necessary to consult those primitive classics who give them with the greatest degree of the native enthusiastic feeling of Greek imagination. It is thus that the traits of classic mythology are found in the Homeric hymns—displayed in a less ornate and sophisticated form than by Ovid, yet with an airy grace, a freshness of colouring, and a beauty of outline equally remote from the grotesque and wild theogony of Hesiod. Even when the hymnist may be supposed to have borrowed his materials from that theogony, as in the strain to the Delphian Apollo, he seems to humanize his materials into shapes of new and natural attraction. And widely as the genius of those productions may be distant from the bold and inventive inspiration of Homer, they have nevertheless a charm of indigenous naïveté that makes us acquainted, not only with the outward shape of Hellenic idolatry, but with its inward spirit and essential character, and with the joyousness peculiar to its elastic temperament. The hymn to the Delian Apollo sustains a charming tone of jubilee. It leads us abroad with the inhabitants of Delos, her men, women, and blooming children, scattered over their festive fields, and celebrating games and contests of harmony, with an enthusiasm which the poet describes as throwing an air of immortality over their countenances.

And whi soe'er had seen the Delian isle  
Pour forth, Apollo, underneath thy  
smile,

To games, and song, and dance, th' Ioni-  
an race,

All beauty, gladness, triumph, bloom  
and grace,

Bold men and lovely women vestur'd  
bright—

He who had marked the soul-enchant-  
ing sight,

Had deem'd those ship-clad shores, that  
wealthy clime,

The region of a race immortal in their  
prime.

The hymn to Venus gives a beautiful description of the goddess taming savage nature by her approach, and attracting the pard and the lion to fawn upon her path. Nor is the subject, though luxuriant, treated with indelicacy. The hymn to Mercury certainly exhibits, in the merriment of Jupiter at the lies and knavery of his infant bastard, neither high-wrought traits of pleasantry, nor imposing moral notions of a Pagan heaven. But superstition seems there to sport before us in the gaiety of her childhood, and in that form she is at least as agreeable and harmless as in some that she has assumed in her riper years.

Learned conjecture, though divided on the question whether Homer or Hesiod be the more ancient poet, certainly leans to the priority of the former. Many volumes have been written to settle the exact period of Hesiod, and even astronomy has been invoked to decide it. But it is still a subject of uncertainty. The round numbers of Herodotus' chronology cannot be taken quite literally in a matter so palpably traditional.\* Nor does the poet's own declaration, that he lived in the fifth or iron age, immediately after the heroic, guide us distinctly to any date, for he is there dividing the epochs of the world with great poetical latitude, and it is impossible to understand him in strictness, declaring that he lived but one generation after heroes, whom he places in the islands of the blessed. But his great antiquity is undeniable. The philologist, in spite

\* Herodotus places the age of Hesiod and Homer four hundred years before his own. It would be tedious to transcribe the various dates assigned to both poets, in which the ancients differ as much as the moderns. In general, about nine hundred years B. C. is assumed as the æra of Homer, and half a century later as Hesiod's. As to the fabled poetical strife between them, the passage of the Works and Days alleged in proof of it, does not mention even Homer's name, and is besides thought to be corrupted.



of a few differences in language\* and prosody that have been noticed, still places him at the side of Homer as the poet of old Ionic Greek. Again, the rudeness of his agricultural skill bespeaks a very early state of society. Not a word is mentioned, either of the olive or the beehive, nor of watering land, nor of any species of manure, nor even of the simple expedient of burning the stubble. And his ethics have the same simplicity. On the score of these he is placed as the father of Greek sententious or Gnomic poetry; but in the days of Solon and Theognis, we find the observations of the Gnomics on the economy of life pretty various, whilst Hesiod's morality, though honest and generally amiable, is circumscribed and monotonous.

Nevertheless, Dionysius' remarks on the fine and flowing sweetness of our poet's diction leave us to conjecture his age to have been decidedly, though not greatly, later than Homer's. His tone of opinion I conceive also to be more modern. Homer carries us completely back to the soul and sentiments of the heroic ages; and in particular he breathes a regard for monarchy, which shows that form of government to have been still regarded in his time with a share of primitive partiality. But Hesiod evinces no such respect for kings.† On the contrary, he threatens and reprobates them as devourers of bribes and workers of evil. This indignant and free feeling with regard to rulers, as well as the sober love of industry, the hatred of rapine, and the generally calculating spirit of utility, that pervade his poetry, notwithstanding the narrow range of his ethics—all these traits might undoubtedly belong to his individual character, as much as to that of his age. But a poet's sentiments are never popular, unless the public mind meets him half way; and Hesiod's hatred of tyranny may well be imagined to have been a popular feeling in Greece, during that abuse of royal power which paved the way for her republican institutions.

\* Namely, in Dr. Clarke's edition of the *Iliad*, in Mr. Knight's *Prolegomena*, and in the supplement to Sulzer's *Allgemeiner Theorie des Schönen Kunstes*.

† At least in the "Works and Days."

Pausanias mentions a tradition among the Bœotians, possibly deserving more credit than he seems to have attached to it—namely, that Hesiod was the author of none of the poems ascribed to him except the "Works and Days." It is exceedingly improbable that he composed the "Shield of Hercules," and his Theogony has not that kind of beauty by which the ancients describe his genius. It astounds the imagination with the thunder and lightning of the warring gods, and with the chaining and Tartarian imprisonment of the Titans. But his gigantic conceptions want grace and consistency to be majestic; and its monstrosities, such as a father devouring his children, children mutilating their fathers; giants with fifty heads and an hundred arms, the tongues of serpents, and the voices of bulls and lions, whatever they symbolized, are given as dry facts by the poet, and are to us uninteresting chimeras. Æschylus and Milton were indebted to the theogony, but they found in it rather the elements of sublimity than the sublime itself.

Hesiod was called the Ascræan, from the village of Ascra, in Bœotia, where he lived. He calls it a miserable place, though it lay at the foot of the mountain Helicon, and describes its ungenial climate like one who remembered and regretted a better. Strabo says that he was born at Cuma, a city of Æolia; and the poet himself tells us, that his father had crossed the seas from that place on account of his poverty, in order to settle in Bœotia. After the old man's death, Hesiod lost the greater part of his patrimony in a lawsuit with his brother Perses, through the decision of corrupted judges. To this Perses his poem on the "Works and Days" is addressed, in a tone of advice sufficiently reproachful to indicate that his brother had made his fortune like a knave, and spent it like a fool. He prefaces his moral precepts by viewing the history of man from the stealth of the Promethean fire down to the degeneracy of the iron age—then illustrates, in a general manner, the beauty and temporal blessings of justice and industry; after which, in the second book, he dispenses particular instructions to the hus-

bandman, on his labours, his instruments, and even his garments, on the enjoyments he may allow himself and the habits of decency which he should practise. The third book is a poetical calendar, for distinguishing between holy and other days.

The charm by which the best old critics characterize Hesiod, is that of blandness and amenity. Pliny professes, in reading him, to envy the happy life of the primitive agriculturist; and Virgil, in that high moment of his enthusiasm, when he apostrophizes the Saturnian land, consecrates the Ascræan poet's memory by bestowing that epithet on the intended character of his own immortal song. There is much in the "Works and Days" corresponding to this beauty of poetic spirit which the ancients ascribe to him, such as the description of the ages of the world, and of the state that flourishes under a righteous government. But there is also much in the poem which I apprehend is really felt by a modern mind as rather humbly pleasant than poetically graceful. When we read, for instance, his advice to the farmer to avoid wasting his time at the smith's forge, the common resort of the village loungers and gossips, we are filled with agreeable interest in a trait of manners so ancient and simple. But in pursuing these and many similar passages, we are at a loss to conceive the necessity for bees to have suckled their author in his infancy.\* His familiar draughts are not like Homer's, blended with the tenderness or strength of affection: their attraction is rather placid than endearing. It is not pedantry, however, to attach importance to the circumstance of his having been so eminently a favourite with the ancients from the first to the last ages of classic literature. They must have tasted charms in his harmony and diction, to which it is impossible that a modern ear can be equally alive. Many truths on which he harps as a moralist with monotonous effect to us, might be far from common-place to the age in which they were promulgated. He was the poet of sober unimposing vir-

\* An ancient legend respecting Hesiod.

tues, labour, justice, and frugality—the most important to man, but the most difficult to make the means of dazzling his imagination. If he has not given them the highest splendour of poetry, it was much to have arrayed them in a mild and attractive light.

In one respect, his moral spirit may be objected to, namely, in the irrational harshness with which he speaks of women. But this is not the only illiberal trait of sentiment with regard to the sex, that appears as an anomaly in the history of Greek civilization: for republican Greece appears to have been more unjust towards women than the age of Homer. The father of poetry is too simple to be gallant; but he has a natural equity that seems to make no invidious distinction between the rights of the sexes. Hesiod, on the contrary, summarily explains the origin of evil, by throwing all the blame of it on the weaker sex.\* Superstition has seldom exhibited man in a more ignoble light than as the author of this fiction; a wretched being attempting to wreak his discontentment with life on the character of a timid help-mate dependant on him, more alive to suffering, and doomed to suffer more, than himself. Voltaire says, that there is nothing in Homer equal to this description which Hesiod gives of Pandora. I am glad that the cowardly legend is not in Homer. It may be doing injustice to Egypt to suppose that Greece got it from that quarter; but it seems unworthy even of the equivocal morals of Greek mythology, and only fit to have issued from that country where men fell down before cats and monkeys, and worshipped their superior natures. Assuredly after coining such a fable, and calling it his religion, the lord of the creation might consistently debase himself to the most abject idolatry of the brutes.

#### MEMOIR ON THE MATURATION OF FRUITS.

BY M. BERARD.

[Abridged from the *Annales de Chimie et de Physique*.]

In vegetables, whose organization is complete when fecundation has

taken place in the flower, the ovary in receiving a vital impression insensibly dilates, and changes into fruit. From the first moment of fecundation, to the period at which the fruit is fit for the reproduction of the species, or, in other words, has arrived at maturity, certain chemical changes take place in this organ, which are, doubtless, highly interesting, and which form the subject of a prize proposed by the Academy of Sciences.

Botanists divide the fruit into the *grain*, or seed, and the *pericarpium*, or covering of the seed. When the pericarpium consists only of a thin hard uniform membrane, the entire fruit commonly bears the name of *grain*; but when it consists of a succulent or fleshy pulp, enclosing the seed or seeds, it bears the name of *fruit*. It is in this sense that I understand the question of the Academy; and it is certainly an important enquiry, to examine the chemical changes that take place in the pulpy fruits from their first rudiments to maturity, considering the great use made of them as food. When the principle of vitality has once been imprinted on the germ, the growth of the fruit is doubtless owing to the vegetable juices which it receives from the plant; but, it cannot be doubted, that the atmosphere in which it grows furnishes a portion of nutriment to this, as well as to every other part of the vegetable. It is this atmospherical change that I have principally examined, as being that which is the most within reach of accurate chemical research.

The experiments of Priestley, Sennebier, and especially those of Saussure, have determined, in a very satisfactory manner, the action which the leaves exert on atmospheric air; so that it is now universally admitted, that when leaves are exposed to sun-shine they decompose the carbonic acid of the air, absorbing its carbon, and thus setting free an equivalent portion of oxygen: but in the dark a contrary change takes place; the leaves give out carbon, which forms carbonic acid, by uniting with the oxygen of the atmosphere; nevertheless, the whole of the carbonic acid thus formed is not poured out into the atmosphere, but a portion is permanently absorbed by the vegetable. This absorp-

tion is greater in proportion as the leaves are thicker, so that the plants with fleshy leaves in the night only diminish the oxygen of the surrounding medium without evolving any carbonic acid. The quantity of carbonic acid which common leaves decompose in sun-shine is greater than that which they form during night; so that if leafy plants are enclosed in an artificial atmosphere, containing a tenth part of carbonic acid, and allowed to vegetate exposed to the alternate influence of sun and darkness, the final result will be, a diminution of carbonic acid, and an increase of oxygen in this atmosphere.

M. de Saussure thinks that fruits exercise the same action on carbonic acid in the sun as leaves do; but he does not give the particulars of any experiments, and adds, that they are more uncertain, because fruits preserve hardly any force of vegetation when they are separated from the parent plant. I have, therefore, directed my attention chiefly to this subject.

My first experiments were made on fruits separated from the plant. It will be seen, that they all lasted so short a time that the fruits cannot be supposed to have entirely lost their vegetative principle. Some very green fresh-gathered strawberries were enclosed in a glass jar, full of common air, and set in a very light room. After twenty hours had elapsed, the jar was opened under mercury, and the air analysed; the carbonic acid being absorbed by caustic potash, and the oxygen determined by Volta's eudiometer. It contained as follows:

Carbonic acid . . . .	4.00
Oxygen . . . . .	16.80
Azote . . . . .	79.20
	<hr/>
	100.00

It appears, therefore, that out of the twenty-one hundredth parts of oxygen which common air contains, the strawberries have abstracted 4.2, which are replaced by four parts of carbonic acid, the carbon being furnished by the fruit which had not undergone any sensible alteration.

I submitted to a like experiment all the fruits which I could procure; such as pears, apricots, figs, cherries, gooseberries, &c. In all of

\*The legend of Pandora occurs in the "Works and Days," and is repeated in the "Theogony."

them, when I pulled the plant I left it adhering to a very small slip of the branch that bore it, and covered the cut ends with wax. These were inverted over mercury, in a bell glass, and I often threw up a little water, to cover the surface of the metal. In every instance I observed a similar effect with that produced by the strawberries; that is to say, a certain portion of the oxygen disappeared, and was replaced by carbonic acid, nearly of the same volume, but oftener somewhat less. When the fruit was in large proportion to the included air it often abstracted almost the whole of its oxygen. Thus, in one experiment, I enclosed two pears, recently cut in slices, into a jar, of which they filled one-third of the volume; and, after twenty-four hours exposure, I found, by analysis, only 1.96 per cent. of oxygen, and 18.52 of carbonic acid.

A similar effect is produced when the fruit is exposed to the direct rays of the sun. A green and sound almond was enclosed in a glass, containing six or eight times its volume of air standing over mercury, covered by a little water. This was exposed for an entire day to the rays of a bright sun, but protected in some degree by some leaves thrown over it. In the afternoon the almond was withdrawn perfectly sound, and the air, when analysed, was found to contain only 5.65 of oxygen, and 15.74 of carbonic acid. It is, therefore, I think, sufficiently proved, that green fruit, far from resembling leaves in changing the carbonic acid of the air into carbon and oxygen in the sun-shine, on the contrary, convert the oxygen of the surrounding atmosphere into carbonic acid. I thought it right, however, to repeat the experiment with a more highly carbonised air; and, therefore, I introduced a fresh-gathered green almond into about seven times its volume of an air, composed exactly of nine parts of atmospheric air and one of carbonic acid. The vessel was exposed to the sun, a little protected from its direct rays, by the interposition of some leaves, from nine in the morning to four in the afternoon, at which time the entire volume of the gas appeared to be slightly increased. The analysis before and

after the experiment gave the following results:

	Before the Exp.	After the Exp.
Carbonic acid	10.00	21.80
Oxygen	18.90	8.10
Azote	71.10	70.10
	100.00	100.00

Thus it appears, that 10.80 hundredths of oxygen were converted by the experiment into carbonic acid, which were added to the ten parts already existing; and, besides, one part of carbonic acid was disengaged from the almond. Consequently none of the carbonic acid was decomposed, so that the same change took place in a highly-carbonised atmosphere as in common air. Other fruits gave the same results. It is therefore demonstrated, that fruits act upon air in the same manner both in sun-shine and in darkness; but with this difference, that in darkness the volume of oxygen that disappears is usually somewhat greater than that of the carbonic acid generated, but in sun-shine the reverse takes place. This would lead to the supposition, that during the night a portion of the generated carbonic acid is detained in the pulpy substance of the fruit, but is afterwards expelled by the next sun-shine, the effect of both of which is exactly to equalize the volume of carbonic acid produced and of oxygen consumed. However, the difference between the two is never great, not exceeding a fifth of the volume of the fruit. Another circumstance should be noted, which is, that during the condensation, if in sunshine, a considerable quantity of water accompanies it, but in the dark the whole apparatus remains perfectly dry. This condensed fluid is pure water, smelling of the fruit from which it was derived.

The circumstances in which the fruits were placed in the experiments which I have related were sufficiently varied to enable us to pronounce with accuracy on the action which green fruits exercise on the atmosphere that surrounds them. The only objection which occurs to me is, that the fruits selected for experiment were detached from the tree, but I cannot believe that they had lost all their vegetative force in the little time that these experi-

ments lasted, particularly as there are many that preserve it for a considerable interval. This applies particularly to fruits that have the property of ripening when severed from the tree, such as apples and pears. This property, is, in all probability, owing to their retention of vegetative life, for they will not ripen if they are entirely disorganised by being bruised to a pulp.

However, to convince myself that fruit has the same chemical action upon the oxygen of the atmosphere when growing, as when separated from its parent tree, I made the following experiments. I selected two healthy pears, growing close to each other on the same branch, and thrust them into a glass jar of about six times the capacity of the fruit. The jar was then closed by a cork previously cut across into two equal parts, having a notch to allow of the insertion of the small branch to which the pears were attached. The jar was then supported by threads to the adjoining branches, and the cork closed carefully with lute. After thus remaining for twenty-four hours, the branch was cut off above the cork, the jar opened under mercury, and the contained air was carefully analysed. The fruit did not appear to have undergone any alteration. In my first experiments I found but an imperfect effect on the enclosed air, owing doubtless to my using fat lute which did not sufficiently close the jar: I therefore exchanged it for a resinous cement which I spread over the surface of the cork with a hot iron, which, however, I had much difficulty in applying close round the stem of the fruit, which is always moist. A pear was thus kept for twenty-four hours in contact with about five times its volume of common air, after which the air when analysed gave the following contents:

Carbonic acid	5.0
Oxygen	15.2
Azote	79.8
	100.0

I tried this mode of enclosing other fruits, but the difficulty of applying the cement with accuracy, and the cracks to which it was liable by the accidental shaking of the branch, made me adopt a different contrivance, that seems to be free from every objection.



I selected a sound green-gage plumb, covered it with a wide mouthed jar, of about six times the capacity of the fruit, and tied the jar to the adjoining branches with packthread. The cover of the jar was of tin-plate, with a small tube in the centre to contain the stem of the fruit, and split in halves to allow it to be applied on the jar when the fruit and stem were enclosed. The halves of the tube were then cemented to each other and to the rim of the jar, thus closing every part but the small tube containing the fruit stem. To do this latter effectually without bruising the stem, a strip of elastic gum was cut to the proper size, soaked for a few moments in boiling water, coiled round the stem within the tube, pressing its cut edges together to make them adhere, and lastly, fixed firmly both to the tube and the stem by packthread. The experiment began at eight in the morning in a fine day with a bright sunshine, which was partly intercepted by the surrounding leaves. At four in the afternoon I cut off the stem, collected the air of the jar under mercury, and on analysis it gave

Carbonic acid . . . .	9.43
Oxygen . . . . .	12.53
Azote . . . . .	78.04

100.00

The plumb continued perfectly sound, and was still covered with its bloom.

Apricots, peaches, cherries and pears, were subjected to similar experiments, and in all, I found that these fruits even in direct sun shine changed the oxygen of the atmosphere into carbonic acid. Nor was it necessary that these fruits should have advanced far to maturity, for in one instance I enclosed in a jar for a fortnight a small branch bearing three peaches of the size of peas, and at the end of this time the jar contained 4 per cent. of carbonic acid, and 16.6 of oxygen.

I consider it, therefore, as established beyond a doubt, that fruits act upon atmospherical air in a very different manner from leaves, the latter absorbing carbon in sun-shine, and the former giving it out during the whole of their growth. Besides which, fruits are constantly suffering an evaporation of moisture from their surface, which is much greater

in the day than at night, and doubt less is also much influenced by the moisture of the soil into which the roots of the tree penetrate.

Some seeds are contained in a large pod or seed-vessel, which is always full of air, and which appears to be naturally closed so accurately as to be impervious to the external air. Of this the bladder-senna is a striking example. Now it has been found that this enclosed air is in no way different from that of the surrounding atmosphere, which would lead one to suppose that the seeds of these plants are an exception to the general rule of chemical action, which we have been maintaining to take place. It occurred to me, however, that it might be possible that the membrane lining the bladder-pods was not impervious to air, though it is so to water; and this was confirmed by the experiment of enclosing them in a jar of common air confined over mercury. After three days the air of the pods themselves, and that within the jar external to the pods were separately analysed, and both portions were nearly uniform, consisting of about 22 per cent. of carbonic acid, and scarcely an atom of oxygen. It appears, therefore, that these pods are permeable to air; and from what we learn by the experiments of Dalton and Berthollet, of the ease with which different gases become uniformly mixed, when in contact only by a small surface, it will not be surprising that the air of these pods is at no time sensibly different from that of the surrounding atmosphere, though the same changes are going on in them as are produced by all other seeds. Since it appears that the smallest opening is sufficient to establish a communication between a confined portion of air and the surrounding medium in which it is immersed, I cannot help suspecting some imperfection in the very difficult business of luting the stem of a living tree, in experiments similar to my own, undertaken by M. de Saussure, which have led this excellent chemist to the erroneous conclusion, that no carbonic acid is generated by an unripe grape still adherent to its stalk.

The conversion of the oxygen of the air into carbonic acid by the action of the fruit, and consequent

loss of carbon by the fruit itself, are indispensable to its maturity, so that when the process is interrupted, the fruit withers and dies. To prove it, I confined a growing apricot in a close jar, in the way I have already described, of about six times the capacity of the fruit, and selected another growing in the open air close to it, of the same size and forwardness, by way of comparison. Three days would be sufficient for the conversion of all the oxygen of the jar into carbonic acid; so that after that period the enclosed fruit had no means of parting with its carbon. In a fortnight it was still green, but not increased; whereas the adjoining one had grown much larger. In a month the latter had reached its full size, and had ripened, whilst the enclosed one had sensibly shrunk, and in three weeks more it appeared nearly dry. I then cut off the stalk, and removed the apparatus. The enclosed air had lost all its oxygen, which was replaced by an equal bulk of carbonic acid, and the apricot was shrivelled to a dry and hard stone covered by a brown skin.

Similar experiments were made upon peaches and green plumbs, and with the same results.

Being now convinced that the loss of carbon was absolutely necessary for the maturation of unripe fruits, it appeared probable that they might be preserved for a long time unchanged, if they were confined in a medium in which they could not generate carbonic acid, particularly those which spontaneously ripen when gathered green. It would be sufficient for this purpose to confine them either in a vacuum or in an atmosphere of carbonic acid, or any gas not containing oxygen. I found, however, upon trial, that green fruits, under these circumstances, give out a certain quantity of carbonic acid for the first two or three days, but not afterwards.

On the first of October I put a green, hard, sound pear under a small bell glass, and exhausted the air by an air-pump. The next day the glass contained some carbonic acid, given out by the fruit, which I pumped out, and repeated this for four or five days successively, after which no more gas was generated. On the 15th of January following I

examined the pear. It had kept perfectly well, and was quite hard. I let it remain for five or six days in a room exposed to the air, during which it ripened, and was perfectly well tasted.

At the same period, and with the same success, I succeeded in preserving another pear, which I had suspended in a jar filled with carbonic acid gas. These and other similar experiments gave me great hopes of being able to preserve fruits for a long time by the methods above mentioned, but they have not been entirely realized. I have operated on cherries, goose-berries, apricots, plums, pears and apples. I selected very sound fruits, within about a week to a fortnight of their natural term of ripening, and enclosed them in vacuo, others in carbonic acid, in hydrogen, or in azotic gas. All these fruits have been preserved for a certain time; but if the experiment has lasted too long, though they are still preserved from decay, they lose their fragrance and sweet taste, and they all acquire nearly the same flavour, which is peculiar, not easily described, and disagreeable. They also turn sour, and this is owing to the formation of malic acid alone.

Cherries and apricots, long enclosed in jars, without the presence of oxygen, sweat out in a few days a liquid of the colour of the fruit. If they are withdrawn after twenty days, and then exposed for a day to the open air, they retain their agreeable taste; but I found a specimen of cherries which I examined, after an enclosure of about five months, to retain their smell indeed and their proper colour a little weakened, but to have lost their peculiar taste, and to have become acid, with that particular unpleasant flavour which I have already mentioned. I have at this moment before me (December 25th) a jar enclosing two peaches in azotic gas, which have remained in this situation since October 6th; to appearance they would be thought just gathered, but they have lost their delicious perfume and flavour, whilst a similar sample, opened November 5th, and then exposed for two days to the air, have turned out quite good.

Pears and apples are, of all the fruits that I have tried, those that

are the longest preserved in a medium deprived of oxygen. I have preserved pears in a vacuum from October to the following July, which remained quite sound, but had exchanged their agreeable flavour for the sour and unpleasant taste already described. But after three months enclosure in vacuo, and a few days subsequent exposure to the air, they remain quite good in every respect. May we not hence presume, that the fruits which ripen of themselves, when severed from the tree, retain this quality in virtue of a certain degree of vegetable force which remains in them, and lies dormant for a time when they are immersed in a non-oxygenous medium, but which is lost in the end, when the power of maturation can no longer be recalled.

My apparatus for enclosing fruits in a vacuum was the following: I first put them into a jar, and closed it with a good cork, covered carefully with resinous cement, and having a very small hole bored through its centre with a red-hot knitting-kneedle. This being done, I put the jar on the air-pump plate, whelmed over it a glass receiver, fitted with a copper stem, which could be raised or sunk through an air-tight leather collar. When a vacuum was made in both jars, I pressed down upon the hole of cork of the inner jar the copper stem, which carried a small plug of wax at its extremity, and thus the cork was made air-tight by the wax plug that was left in the hole. To fill the jar with carbonic acid or hydrogen gas, two holes were made in the cork, to receive two bent glass tubes, one preceding from the vessel in which the materials for furnishing the gas were put, and the other dipping under water or mercury; a current of the required gas was then passed through the jar, till it was presumed that all the atmospheric air was displaced. To fill it with azotic gas, the bottom of the jar was covered with a stratum of moistened protoxyd of iron, recently prepared, and the fruit was then put in on a small partition of tin plate, and the jar sealed up; and thus the air of the jar was left to be deprived of its oxygen by the action of the protoxyd of iron, leaving its azote untouched.

[To be continued.]

[COMMUNICATION.]

MESSRS. EDITORS,

As tendering a literary service to a "detector of plagiarisms," whose most ingenious discoveries we perused with infinite gratification in the Literary Gazette, of last Saturday; we take the liberty of informing him that the song commencing—

(Lark! lark! the lark at heaven's gate sings!

is to be found in *Cymbeline*, Act 2. Scene 3. In his play, Shakspeare has only imitated *himself*, or rather repeated the idea contained in his Sonnet—we are surprised that this shrewd and skilful exposé of literary fraud, should not, "in the course of his reading," have fallen upon a *certain play* written by one William Shakspeare, called *Cymbeline*—the "somebody" who has imitated the Sonnet, is no less a personage than the said William Shakspeare himself. If there be in *reality* any imitation of the *song*, not sonnet, it is perhaps to be found in *Paradise Lost*, book v. verse 197, in the famous hymn of Adam and Eve.—

Ye birds,  
That singing up to heaven's gate ascend!  
Bear on your wings, and in your notes  
his praise.

We do not pretend to say, however, that this was a "plagiarism," or even an imitation on the part of Milton, any more than we would pronounce Priestley a borrower of the chemical affluence of Lavoisier, or Lavoisier of Priestley, although they happen both to make some of the same discoveries. In the court of Apollo, this industrious gentleman would be presented with a sack of *wh. at*, and told to pick out the chaff from the corn, after which *labour*, like the critic of whom Boccacini speaks, he would be presented with the *chaff* for his pains.

S.

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